U.S. EPA Meeting with AstroTurf (phone conference call)

July 25, 2016; 2:00 PM – 3:00 PM

DRAFT MEETING MINUTES

Attendees: Chris Carusiello (**CC**), Ksenija Janjic (**KJ**), Jacqueline McQueen (**JM**) from US-EPA; Heard Smith (**HS**), Mitchell Truban (**MT**), Ryan Paris (**RP**) from AstroTurf; Nancy Nord (**NN**) and Elliot Belilos (**EB**) from OSW-Law.

HS: Let me introduce ourselves on the phone, we have Mitchell Truban and Ryan Paris who head up our operations side of the business. And I am Herd Smith, the Chief Operating Officer. And we're here to answer any questions or certainly help you in any way that we can.

KJ: Do you have any questions in terms of the overview that you would like us to answer before we start?

HS: I think we're pretty much fully up to speed and we appreciate your involvement in helping us work through this issue.

KJ: We are recording the call to transcribe the information. That eases our task today so we can listen without worrying about taking notes. Once we transcribe the recording, we will provide you an opportunity to edit it, to ensure an accurate capture of the conversation. Also to let you know, because we are the government, everything we do is subject to FOIA requests (Freedom of Information Act requests). If any member of the public requests that we provide information regarding meetings, we may be obligated to do so. We wanted to let you know this before the conversation.

NN: To clarify, if there is any sensitive or confidential business information discussed on this call, how would you like that treated? Flagged or otherwise?

KJ: We would like that flagged, or you can just choose not to discuss that information in the call with us.

KJ: We were wondering about the proportion of AstroTurf's outdoor versus indoor fields?

MT: Closer to 5-10% that are indoor.

CC: What is a driving force to having an indoor field?

MT: Depends on facility infrastructure more than anything. It's getting to be a more popular item, but it's still going to be specific to who can afford it.

HS: It's still a very low percentage of what we do on a day-to-day basis.

KJ: We were wondering about the size and type of crumb rubber. Do you use a specific size or type of crumb rubber in your field?

MT: The majority of the rubber we purchase is an styrene butadiene rubber (SBR) ambient and it is a 10/20. That's the majority of the infill that we purchase. But depending on what the specifier or client wants, it could differ.

CC: Are there any differences or advantages using cryogenic or ambient? Why would someone want to pick one or the other?

MT: From a performance standpoint, we see no advantages or differences between a cryogenic 10/20 versus an ambient 10/20.

KJ: What kinds of product lines do you carry?

MT: We offer a long list of product lines: all rubber, sand rubber, and then alternative infills: thermoplastic elastomer (TPE), ethylene propylene diene monomer (EPDM), Nike Grind, organic material like a green play or a zeofill. We have a wide variety, not just one that we can capture in one or two sentences.

RP: What we specify is a rubber and sand mixture. Obviously there are jobs that call for a 100% SBR or alternative infill, but if anyone asks what our recommended product mix is from a standard product, it would be a sand and rubber infill mixture. Sometimes that varies based on size, product selected. A lot of variables that go into that mix.

KJ: Can you tell us a little bit about that, what are the differences based on the types of fields?

RP: You could have a high-use multipurpose field that goes into a lot of high schools, where they use it for many different sports or events. It's a fairly standard product that's out there. That's a 40oz base weight. We would recommend a 70% rubber to 30% sand mixture by weight, that's your typical field that's out there. On our higher performance field, we recommend a 50/50-blend of sand and rubber to give it a firmer surface. We have a lot more fiber in those systems, the sand you offset the fiber with for a harder surface. And when you get into other sports like baseball, it changes as well. It can be fine-tuned for a sport. Depending on the mixture of infill.

KJ: Is the variability in the mix generally in regard to how much sand versus crumb rubber there is? Are there any differences in the size of the crumb rubber?

RP: The sizing would all remain the same. The only difference would be the blend of how we do that.

KJ: In terms of the particle size, is it all a uniform particle size or different sized particle?

RP: We use a 10/20 mesh and there's a sizing there that tries to hit a bell curve 15 to 30.

HS: Maybe we should talk about the testing procedures and how we test products like that. We've limited our suppliers to those who look at the STC standards and are approved suppliers

in terms of accountability of sizing, scale and the product that we order on a regular basis.

MT: At the front end of the season, before we set up any supply agreements with the suppliers, there's always new, small manufacturers that come into the market who want to supply us. And before they can supply material, we'll ask them to provide a third-party chemical analysis and we use the EN 71-3 test. They'll have to submit their rubber to a third party lab. They have to provide and keep on record at least one sieve analysis per truckload that goes out the door to all of our job sites, so that at any point in time we can go back and have a snapshot of the materials that they're providing. We don't want any more than 3% greater than the ten-sieve, and less than 5% passing the twenty-sieve. From a drainage and infill performance standpoint, we have to keep them within that range. They are required to provide one sieve per truck on all the material they provide to our job sites. The sand sizing, EPDM, and other ones are different across the board based on the manufacturer and product. From a drainage and infill performance over time.

KJ: If you look at the cross section of the field, would all the crumb rubber be the same size or would the particle size vary?

MT: It would vary, it would be a bell curve between a ten- and a twenty-sieve.

CC: Do they do the EN 71-3 testing for each field?

MT: During the beginning of the year they're required to provide that test for their product. After the fact, it's up to the supplier how often they want to do that test. For us, internally, we pull 2 fields randomly per month, without notice to the supplier, and test them on the EN 71-3, the European Toy Digestion Test.

CC: Have you seen anything to be concerned about?

MT: No sir, we have not.

CC: Can you tell us a little bit more about the antimicrobials that you put on the fields? How you apply it, and is it common on all the fields or just on select ones?

RP: The antimicrobials you saw on our website would be our AstroShield product. It is an application that is available, it is not standard on all products. It's something that can be applied during manufacturing prior to us shipping it to the field, as a separate step. It can be applied much like a stain guard can be applied to a carpet. It's not a permanent application, it has an 8-year warranty. It will eventually wear off the field with weather and UV. It can also be applied in the field at a later date, but that is a more costly venture.

CC: Do you apply AstroShield on all fields, or only in specific locations, like say ones in the north?

RP: It's an add-on, it's not a standard application for all our fields that are manufactured. But it is part of our product offering. They can add it as part of their purchase.

KJ: Is there a lot of interest in that product?

HS: Very little interest at all. The products basically are inert and don't have much issue at all

with ever growing bacteria or holding anything when you talk about polyethylene or polypropylene or the rubber itself. The only issue you may have is any organic material the field is exposed to after the fact. There is very little actual interest in that at all. What would you say percentage wise?

RP: I'd say less than 5% of fields get that treatment.

KJ: Is it something that has been applied more recently or more in the past, or equally over the years?

MT: Originally it was developed and was used and we tried putting it in every field, and then we saw a trend with customers not wanting to pay for it.

JM: If someone wanted to buy the product and apply it after the fact to the field, is it a possibility to buy the product from you or elsewhere and apply it themselves? Or would they work through you?

MT: They can buy our product through us and apply it to the field. There are maintenance packages out there that you can buy that they sell and service fields after the fact. It's just like a topical application or pull-behind sprayer and it's applied to the field. The life expectancy is a one or two years. There's not a long life expectancy when you do it that way, but it's something we've done for customers in the past.

HS: Where are we headed with the questions on antimicrobials? There are a lot of studies that have been done with antimicrobials that have been done with MRSA and infectious issues that we would be happy to share. They show very little results there, too. I was wondering what the thought process was.

JM: I think we have heard the same thing. What we've heard across the board is that generally, an antimicrobial treatment isn't needed. But for the study we're trying to monitor what is used on fields. This is the first time we've heard that an antimicrobial could be used on the field. And if it is used, we want to look for it as part of the study, not in place of anything else, not any particular focus, but just want to include it in the universe of any chemicals we're looking at.

HS: We would agree with the general public statement, we don't think it's necessary or that it really serves any purpose. People have applied it as an extra factor of safety. But we would never necessarily recommend the product, but it is there and available by us and multiple other sources.

KJ: It appears from year-to-year your suppliers could change as long as they meet certain testing requirements. How often does this happen or do you see that change?

HS: We've used basically the same top two or three suppliers for the history of this business, or at least over my tenure in the last five years, with Liberty or Genan, or possibly BAS or CRM. Those are probably the four largest out there, people we feel comfortable with, following the STC guidelines and meeting our internal test guideline, and we're comfortable with them delivering a quality product to us on a day-to-day basis.

CC: In terms of maintenance requirements do you have any additional requirements or do you

generally go by STC requirements?

MT: In terms of day-to-day maintenance packages, we have a list of certified installers that have to meet our prerequisites with maintenance guidelines, and usually, those are built around STC guidelines, so we don't go far from that. It may vary based on the use or product we supply but all of our products are not necessarily STC certified but AstroTurf certified.

HS: And the STC guidelines obviously came from input from us and others in the industry to lay out those clear guidelines to try to have some similarity and some good understanding industrywide and particularly for someone to go and feel comfortable in looking at guidelines and certification opportunities for their fields.

CC: We were wondering if there's anything extra you recommend that wasn't captured in those guidelines.

HS: I would add that every field has its own individual challenges. I would say the largest portion fit under those guidelines. We may use a different format depending on that individual field. So each one is a little bit different. We would not apply that standard maintenance to every field we install.

CC: What would that be based on?

HS: Probably based on utilization or how that individual field is being kept up; amount of use more-so than climate. Or location of the field, more. If it's tree lined you're going to have a different maintenance standard than otherwise.

KJ: Can you outline some of the differences, what would be done in one case versus the other?

MT: Generally speaking, like at Duke University, they have snow removal there, so they would plow too deep and dig into it. So part of their maintenance would be after snow we would come in and re-level to safe conditions for their rec leagues. Whereas for Vanderbilt University baseball, we had a tree line of little "helicopter leaves" that come down right before fall ball, so we set up a program where we get them off using a deep clean technique, so it doesn't get buried in the system.

CC: Is it typical that a field would have its own field practitioners or does AstroTurf offer a package?

MT: The majority have their own, but we also have a client base where we go in there and help them maintain the field on a quarterly or yearly basis.

CC: Do a lot of groups sign-up for that or have their own group of maintenance professionals?

MT: The majority have their own group.

HS: Most have their own group, we do a job trying to make sure those people are well trained to do so.

CC: Do you find they keep up the fields well or do they need help with best practices?

HS: Of course we have some of both, we have a lot of committed people who want to do the right thing on a day-to-day basis. I would say a significant amount of fields we would like to see better maintenance on a more regular basis than they do.

MT: The honest feedback is, in the early years, a lot of people were told these fields are maintenance-free. We're trying to get rid of that mindset, understanding how important maintenance is for the safety and longevity of the field. I think the industry in the last six years has done a tremendous job in gaining that awareness. We're doing more education every day in field maintenance.

NN: You reference safety, is that player safety or something else?

MT: It's player safety. A lot of times in some areas of the field, we have corner kick spots, they'll kick infill out or tear out the corner of the seams. Trying to address those stress high wear areas or traffic points to make sure they keep the infill consistent.

HS: It's no different than a high-use area on a grass field. We try to keep a level playing field and that requires a little maintenance and people watching those areas.

CC: Can you give us some of those high use areas on a typical soccer and football field?

MT: The corner kick is in soccer, the infill is kicked out and removed throughout the course of the fields. The goal box areas in lacrosse and soccer because they are playing in a small circle. In a baseball field, for instance, the batter's box or pitcher's mound, areas where there is repetitive foot traffic in the same location. On a football field, the belly of the field. On the inside of the hashes is where a lot of the wear happens.

CC: In terms of crumb rubber that may get displaced, how much is lost from when you first install a field to end of life of the field. Is there a lot that gets walked off with the players or does it get shuffled around a bit.

MT: If I could quantify, I could get paid a lot of money. That is a big question mark in the industry. How much rubber leaves the field and how does it leave? Do we notice the infill leaves or changes over time? Is it weather related, athlete related, or maintenance related? We're not sure. It is hard to quantify.

CC: Do fields typically have to put down new layers of crumb rubber throughout their life?

MT: We have gotten calls of top-off but that is a minority of the fields, not a majority.

KJ: Can you tell us about the installation? Is it sand-crumb and then topped off?

MT: There's a difference between the systems, but the majority of what we do is all sand on bottom then all rubber on top. And as Ryan indicated earlier, each system differs by weight ratios. We put sand on the bottom to act like a ballast, then the rubber on top to act as the cushion layer.

CC: We appreciate the offer to allow us to observe the process.

MT: Are you familiar with the location?

CC: Where in DC is it?

MT: It's at 1401 Brentwood parkway N.E. It's called Kipp Stadium Field. It's a 3D product so it has a thatched layer. It's going to get a lot of sports, a lot of use over time. Football, soccer, boy's lacrosse, girl's lacrosse, a centerfield logo and it's about 82,000 square feet.

JM: It's actually right by Gallaudet, right by Union Market.

HS: You're going to go out in time to see the infill process, would you like Mitchel to go through our process of how we install that product?

CC: That would be great.

MT: Its's a messy process to begin with. We're dealing with large, 2000 pound super sacks of rubber and 3000 pound super sacks of sand. They are going to be delivered and staged in a parking lot adjacent to the field. We have one operator in the forklift responsible for moving infill back and forth to the field. There's two operators on the field, one with a broadcast spreader or a drop spreader, depending on the crew or equipment. It will hold approximately 2000 pounds of rubber or 3000 pounds of sand. They usually spray 15 feet wide, going less than three to five miles per hour, a slow pace across the field. They drop the material in light lifts. Followed behind that, they will brush with a Laymor brush and depending on the crew, they may have another operator behind them, a groomer and a rake that will help open up the root zone, and allow the infill to go into that root zone. This will be a heavy, dense product and will be different than the typical face fiber on it. It has face fiber on it and a thick thatched layer that the infill needs to be worked into. This process takes approximately four to six days. This field should take 12 days to get installed. About eight days before that, we'll get back to you to give you a five day window to get it. Would you like to see other parts of the install, such as the stone base to see how we install that?

KJ: We have generally been wanting to see just the infill, for other aspects we have just been asking questions and not been wanting to see them, so we would be taking the same approach here.

MT: If there is anything else you'd like us to let you see, let us know and we'll give you access.

KJ: We'd like to thank you, do you have any questions of us?

HS: We want to add our appreciation for you to look in it, we feel like we've tried to be great stewards of this industry, and we'd like to know what to do to make everyone feel comfortable about this process, it's our business and our children who play on these things. We look forward to bringing these into fruition. It is negatively affecting our business.

NN: As a former regulator I have been impressed by the forthcoming nature of the industry and the fact that they are willing to do whatever they need to do to answer the public's questions. Let us know if there is anything else we can do to help.

HS: We're a little frustrated at wanting to do more, and looking at everything that has been done to date.

NN: One question I have for you all, is what is your season? I've heard it runs from November to late spring.

HS: Installation often corresponds with the rest of the construction industry. April thru mid-October. The bulk of our work occurs during that time. Our industry has been fortunate enough with our growth for the last few years to recognize that we can't do everything during summer season. 65-70% of our projects are done in the spring and summer months.

NN: And when are they contracted?

HS: During that November through March timeframe. That would be the peak selling season. We'd love to have information for specifiers and for that comfort level as people are trying to make those decisions. November through March is a key time as far as that is concerned. Please feel free to ask any questions. We have a whole industry that is eager to supply you with answers, please ask any questions.